REMARKS

This amendment is being filed in response to an Office Action mailed on 05/04/2005, in which the Examiner said that claims 1-60 were pending, that claims 19-28, 35-44, and 51-60 were withdrawn from consideration, that claims 1-18, 29-34, and 45-50 were rejected, and that claims 19-28, 35-44, and 51-60 were subject to restriction or to an election requirement. In this amendment, claims 19-28, 35-44, and 51-60 are withdrawn, claims 5 and 8 are amended to overcome reasons given by the Examiner for rejection, and other reasons for rejection are traversed below.

Response to a Restriction Requirement

In the above-mentioned Office Action, the Examiner said that restriction was required to one of the following inventions:

I. Claims 1-18, 29-34, and 45-50.

II. Claims 19-25, 35-41, and 51-57.

III. Claims 26-28, 42-44, and 58-60.

The Examiner further said that during a telephone conversation with Carlos Munoz-Bustamante, a provisional election was made without traverse to prosecute the invention of claim I.

This election of Group I is hereby affirmed, with claims 19-28, 35-44, and 51-60 being withdrawn from examination as being drawn to a non-elected invention.

Objections to the Drawings

The Examiner further indicated that the drawings were objected to as failing to comply with 37 CFR §1.84(p)(5) because FIG. 2 does not show a radio link 22 referenced by the specification on page 2.

Specifically, the specification says: "Within each infrastructure BSS 16, 17 each operating MU 10 is connected directly to the AP 18 by means of a radio link 22; the MUs 10 are not connected directly to one another."

In this amendment, a replacement sheet is provided, with the numeral 22 being added to identify a radio link connecting an operating MU to the AP 18. The Applicants respectfully submit that the drawings are now in compliance with 37 CFR §1.84(p)(5) and request reconsideration and withdrawal of the objection.

Claims Rejected under 35 USC §101

The Examiner said that claims 45-50 were rejected under 35 USC §101 because the claimed invention is directed to a non-statutory subject matter: a computer data signal embodied in a carrier wave.

The Applicants respectfully submit that the computer data signal embodied in a carrier wave as described in claims 45-50 is statutory subject matter, being a form of an article of manufacture. In this regard, the Applicants note that such a computer data signal is a result of human manufacturing activity, not an example of a naturally occurring phenomenon.

The Applicants cite the *Examination Guidelines for Computer-Related Inventions,* published by the Patent Office on March 28, 1996, as software patent examination guidelines. Regarding an example of an AUTOMATED MANUFACTURING PLANT, these guidelines include, on page 38, the following claim 13:

> A computer data signal embodied in a carrier wave comprising:
>
> a. a compression source code segment comprising...[recites self-documenting source code]; and
>
> b. an encryption source code segment comprising...[recites self-documenting source code].

Thus the guidelines published by the Patent Office are seen as regarding the

computer data signal as an article of manufacture.

The Applicants further respectfully submit that the computer data signal is a physical entity that causes a computer system to operate in ways described within the claims, like the data structures discussed as follows in *In re Lowry*, 32 USPQ2d 1031, 1034, (Fed. Cir. 1994)

> The printed matter cases "dealt with claims defining as the invention certain novel arrangements of printed lines or characters, useful and intelligible to the human mind. *In re Bernhart,* 417 F.2d 1395, 1399 163 USPQ 611, 615 (CCPA, 1969). The printed matter cases have no factual relevance where "the invention *requires* that the information be processed not by the mind, but by a machine, the computer." Id. (emphasis in original). Lowry's data structures, which according to Lowry greatly facilitate data management by data processing systems, are processed by a machine. Indeed, they are not accessible other than through sophisticated software systems. The printed matter cases have no factual relevance here.

Therefore, the Applicants respectfully submit that, in claims 45-50, the claimed invention is directed to statutory subject matter. Reconsideration and withdrawal of this reason for rejection is respectfully requested.

Claims Rejected under 35 USC §112

In the above-mentioned Office Action, the Examiner said that claim 5 was rejected under 35 USC §112, first paragraph, for failing to comply with the enablement requirement. The Examiner said that the meaning of the term "association" was not adequately described in the specification, which refers to "association" in connection to admitted prior art, referring to FIG. 1.

The Applicants respectfully submit that the meaning of an MU (mobile unit) being

"associated with an AP (access point)" is clearly defined within the specification in reference to FIG. 1, and that, since this definition is not disputed elsewhere in the specification, it is the meaning that should be given to the phrase in claim 5. Specifically, on page 3, lines 5-16, the specification says, "For a message to be transmitted to or from an MU 10 within a BSS 16, the MU 10 must be associated with the AP 18 within the BSS 16." The specification then goes on to describe how "the process of association, which synchronizes the MU10 with the AP 18 for communication" occurs. The Applicants respectfully submit that, from this explanation within the specification, a person skilled in the art would understand the meaning of determining whether a mobile unit is associated with an access point, as described in claim 5. For this reason, the Applicants respectfully submit that claim 5 meets the requirements of 35 USC §112, first paragraph.

In the above-mentioned Office Action, the Examiner said that claims 6-9 were rejected under 35 USC §112, second paragraph, and that claim 6 recites the limitation of "said remote access response information" in the first sentence, but that there is insufficient antecedent basis for this limitation. The Examiner further said that claim 7 was rejected as having the same deficiency as claim 6, upon which claim 7 depends.

In this amendment, this limitation is changed to "remote access information," eliminating "a plurality of said," so that antecedent basis is not required. The claim is further modified to identify information describing plurality of paths described by addresses identifying said access points and said intermediate mobile units" are understood to be forms of "remote access information." Support for this change is found in the specification as originally filed on page 13, lines 13-20. It is understood that this change overcomes the reasons given by the Examiner for rejecting both claims 6 and 7 under 35 USC §112, second paragraph.

The Examiner also said that claim 8 recites the limitation of "said addresses" in the first sentence of the claim, but that there was insufficient antecedent basis for this limitation and that claim 9 was rejected as having the same deficiency as claim 8, upon which claim 9 depends.

In this amendment, "said" is removed from this limitation within claim 8, with the addresses being identified by the following phrase as identifying each said intermediate mobile unit in said path and said access point. Claim 9 also has a limitation of "said addresses," but antecedent basis for this limitation is provided in claim 8, as amended herein. It is understood that this change overcomes the reasons given by the Examiner for rejecting both claims 8 and 9 under 35 USC §112, second paragraph.

Claims Rejected under 35 USC §102

In the above-mentioned Office Action, the Examiner said that claims 1-7 were rejected under 35 USC §102(e) as being anticipated by U.S. Pat. No. 6,590,928 to Haartsen, hereinafter Haartsen.

The Applicants respectfully submit that, at the time the invention was made, an MU (mobile unit) could either establish radio communication under the IEEE 802.11 standard either in an ad hoc network, as described in the specification in reference to FIG. 1, or, alternatively, to the Internet through an access point, as described in the specification in reference to FIG. 2. The ad-hoc network could be formed automatically as a number of MUs were brought close enough to one another to begin communication while determining that an access point was not present. Thus, at the time the invention was made, there was no way for one of the MUs to establish a network with other MUs to reach an access point that was out of range for the original MU---a way to do this is the key point of novelty in the Applicant's invention.

The invention of Haartsen is clearly an improved method for establishing an ad-hoc network among MUs. Other methods for establishing an ad-hoc network among MUs were known at the time the Applicants' invention was made. In column 11, lines 26-31, Haartsen says, "The system described here has been optimized to quickly establish and end ad-hoc connections between arbitrary wireless units scattered in a restricted area. Both point-to-point and point-to-multipoint connections can be set up. All units are peer units, each utilizing identical radio transceiver equipment." This is a clear description of a form of an ad-hoc network, as described as prior art in the Applicants' specification in reference to FIG. 1.

In the Applicants' invention, the access point is not a peer unit, but is rather a different and specialized device connected to the Internet, typically through a wired LAN. There is no mention within Haartsen about sending data through an access point.

Regarding claim 1, the Applicants thus respectfully submit that Haartsen does not does not anticipate the requirement of claim 1 for a "method for providing wireless data communication between an access point connected to a communication network and a remote mobile unit." While this limitation is from the preamble of the claim, it is believed that this limitation should be given patentable weight since this limitation gives meaning to the claim and properly defines the invention. In this regard, the Applicants cite *Perkin-Elmer Corp. v. Computervision Corp.*, 221 USPQ 669, 675-76 (Fed. Cir.), cert. denied, 469 U.S. 857 (1984).

The Applicants further submit that Haartsen does not anticipate the requirements of claim 1 for establishing a path between said mobile unit and said access point and for sending data along said path between said remote mobile unit and said access point.

Therefore, the Applicants respectfully submit that claim 1 is patentable under 35 USC §102(e) as not being anticipated by Haartsen.

Regarding claim 2, since Haartsen does not mention communication with an access point, the Applicants respectfully submit that Haartsen does not anticipate the requirement of this claim for determining that the remote mobile unit is out of range with the access point. Therefore, and additionally because dependent claim 2 merely adds limitations to claim 1, which is believed to be patentable as described above, the Applicants respectfully submit that claim 2 is patentable under 35 USC §102(e) as not being anticipated by Haartsen.

Regarding claim 3, since Haartsen does not mention communication with an access point, the Applicants respectfully submit that Haartsen does not anticipate the requirements of this claim for "f) receiving said remote access request information by radio in said access point, g) generating remote access response information, including an address identifying said access point, within said access point," or for transmitting said remote access information from said access point to said remote mobile unit, or for storing said addresses in said access point. Therefore, and additionally because dependent claim 3 merely adds limitations to claim 1, which is believed to be patentable as described above, the Applicants respectfully submit that claim 2 is patentable under 35 USC §102(e) as not being anticipated by Haartsen.

Regarding claim 4, since Haartsen does not mention communication with an access point, the Applicants respectfully submit that Haartsen does not anticipate the requirements of this claim for "determining whether said intermediate mobile unit is within range to transmit data to said access point and to receive data directly by radio from said access point" or for directing "said remote access request information to said access point if said intermediate mobile unit is within range to transmit data directly by radio to said access point and to receive data

directly by radio from said access point." Therefore, and additionally because dependent claim 4 merely adds limitations to claim 3, which is believed to be patentable as described above, the Applicants respectfully submit that claim 4 is patentable under 35 USC §102(e) as not being anticipated by Haartsen.

Regarding claim 5, since Haartsen does not mention an access point or association of a mobile unit with an access point, the Applicants respectfully submit that Haartsen does not anticipate the requirements of this claim for determining whether said intermediate mobile unit is associated with said access point. Therefore, and additionally because dependent claim 5 merely adds limitations to claim 4, which is believed to be patentable as described above, the Applicants respectfully submit that claim 5 is patentable under 35 USC §102(e) as not being anticipated by Haartsen.

Regarding claim 6, since Haartsen does not mention an access point, the Applicants respectfully submit that Haartsen does not anticipate the requirement of this claim for information to include an access of the access point. Therefore, and additionally because dependent claim 6 merely adds limitations to claim 4, which is believed to be patentable as described above, the Applicants respectfully submit that claim 6 is patentable under 35 USC §102(e) as not being anticipated by Haartsen.

Regarding claim 7, because this dependent claim merely adds limitations to claim 4, which is believed to be patentable as described above, the Applicants respectfully submit that claim 5 is patentable under 35 USC §102(e) as not being anticipated by Haartsen.

Claims Rejected under 35 USC §103

In the above-mentioned Office Action, the Examiner indicated that claims 8-18, 29-34, and 45-50 were rejected under 35 USC §103(a) as being unpatentable

over Haartsen, and further in view of U.S. Pat. App. Pub. No. 2002/0045435 A1 to Fantaske, hereinafter Fantaske.

The Applicants respectfully submit that, at the time the invention was made, an MU (mobile unit) could either establish radio communication under the IEEE 802.11 standard either in an ad hoc network, as described in the specification in reference to FIG. 1, or, alternatively, to the Internet through an access point, as described in the specification in reference to FIG. 2. The ad-hoc network could be formed automatically as a number of MUs were brought close enough to one another to begin communication while determining that an access point was not present.

The invention of Haartsen is clearly an improved method for establishing an ad-hoc network among MUs. Other methods for establishing an ad-hoc network among MUs were known at the time the Applicants' invention was made. In column 11, lines 26-31, Haartsen says, "The system described here has been optimized to quickly establish and end ad-hoc connections between arbitrary wireless units scattered in a restricted area. Both point-to-point and point-to-multipoint connections can be set up. All units are peer units, each utilizing identical radio transceiver equipment." This is a clear description of a form of an ad-hoc network, as described as prior art in the Applicants' specification in reference to FIG. 1.

In the Applicants' invention, the access point is not a peer unit, but is rather a different and specialized device connected to the Internet, typically through a wired LAN. There is no mention within Haartsen about sending data through an access point.

On the other hand, the invention of Fantaske is clearly an example of a method for connecting an MU directly with an access point through a radio link, as

described as prior art within the Applicants' specification in reference to FIG. 2. In paragraph **[0001]**, Fantaske says, "the present invention relates to a system and a method for communication between a wireless terminal and an access point." FIGS. 2 and 8 of Fantaske show two embodiments of the system of his invention. In both figures, radio communications occur directly between the wireless terminal (a mobile unit or MU) and the access point. There is no indication that radio communications would be established between the wireless terminal and the access point through an intermediate wireless terminal.

At the time the Applicants' invention was made, there was no way for one of the MUs to establish a network with other MUs to reach an access point that was out of range for the original MU---a way to do this is the key point of novelty in the Applicant's invention.

The Examiner further said that Haartsen and Fantaske are analogous art because they are both related to establishing communications between wired and wireless networks. Regarding this statement, the Applicants respectfully submit that Haartsen is merely related to establishing communications within a wireless network; the wireless ad-hoc network established by the teachings of Haartsen has no component that is a wired network. On the other hand, Fantaske shows a number of components connected on a wired network, but the only wireless connection is between the access point and a single wireless terminal. At best, this is a trivial example of a wireless network. Therefore, the Applicants respectfully submit that the Examiner has failed to establish a motive for combining the teachings of Haartsen and Fantaske, and that the motive for making such a combination resides, not in the prior art, but instead in the teachings of the Applicants' invention, so that a prima facie case of obviousness is not made by combining the teachings of Haartsen and Fantaske. In this regard, the Applicant cites *ACS Hosp. Sys., Inc. v. Montefiore Hosp.* 221 USPQ 929, 932, 933 (Fed. Cir. 1984):

Obviousness cannot be established by combining the teaching of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. The prior art of record fails to provide any such suggestion or incentive.

Regarding claim 8, the Examiner said that Haartsen teaches the method of claim 2, but not the last two limitations of claim 8, but that Fantaske teaches deleting the addresses and sending the data information along the access point.

For reasons discussed in detail regarding the rejection of claim 2 under 35 USC §102, and additionally because, as described above, it is believed that a prima facie case of obviousness cannot be made by combining the teachings of Haartsen and Fantaske in the manner suggested by the Examiner, the Applicants respectfully submit that claim 8 is patentable under 35 USC §103(a) over Haartsen in view of Fantaske.

Regarding claim 9, the Applicants respectfully submit that, since Haartsen does not describe an access point, and since Fantaske does not describe an intermediate mobile unit, with the remote mobile unit of Fantaske being described as communicating directly with the access point, Haartsen and Fantaske do not describe the limitation of this claim for adding said addresses identifying each said intermediate mobile unit and said access point, to said data information received from said communication network. Therefore, and additionally because claim 9 merely adds limitations to claim 8, which is believed to be patentable as described above, the Applicants respectfully submit that claim 9 is patentable under 35 USC §103(a) over Haartsen in view of Fantaske.

Regarding claims 10-12, the Examiner said that these claims are rejected in view of the rejections of claims 1-9. The Applicants respectfully submit that these

claims are patentable under 35 USC §103(a) over Haartsen in view of Fantaske, for reasons advanced above regarding claims 1-9.

Regarding claim 13, the Applicants respectfully submit that, since Haartsen does not describe an access point, and since Fantaske does not describe an intermediate mobile unit, with the remote mobile unit of Fantaske being described as communicating directly with the access point, Haartsen and Fantaske do not describe the limitation of this claim for adding said addresses of said access point and of said intermediate computing systems to data frames to be transmitted. Therefore, and additionally because, as described above, it is believed that a prima facie case of obviousness cannot be made by combining the teachings of Haartsen and Fantaske in the manner suggested by the Examiner, the Applicants respectfully submit that claim 13 is patentable under 35 USC §103(a) over Haartsen in view of Fantaske.

Regarding claim 14, the Applicants respectfully submit that, since Haartsen does not describe an access point, and since Fantaske does not describe an intermediate mobile unit, with the remote mobile unit of Fantaske being described as communicating directly with the access point, Haartsen and Fantaske do not describe the limitation of this claim for storing addresses of one or more access points and of intermediate computing systems. Therefore, and additionally because claim 14 merely adds limitations to claim 13, which is believed to be patentable as described above, the Applicants respectfully submit that claim 14 is patentable under 35 USC §103(a) over Haartsen in view of Fantaske.

Regarding claims 15 and 16, because these claims merely add limitations to claim 14, which is believed to be patentable as described above, the Applicants respectfully submit that claims 15 and 16 are patentable under 35 USC §103(a) over Haartsen in view of Fantaske.

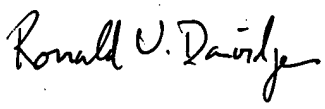
Regarding claims 17 and 18, because these claims merely add limitations to claim 13, which is believed to be patentable as described above, the Applicants respectfully submit that claims 17 and 18 are patentable under 35 USC §103(a) over Haartsen in view of Fantaske.

Regarding claims 29-34 and 45-50, the Examiner said that these claims are rejected in view of the reasons for rejections of claims 13-18. The Applicants respectfully submit that these claims are patentable under 35 USC §103(a) over Haartsen in view of Fantaske, for reasons advanced above regarding claims 13-18.

Conclusions

The Applicants respectfully submit that the application, including claims 1-18, 29-34, and 45-50, is now in condition for allowance, and that action is respectfully requested, along with reconsideration and withdrawal of all reasons given for objections and rejections.

Respectfully submitted,



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